

Remarks

Claims 1 and 4-28 are pending in this application. In a final Office Action dated March 23, 2004, the Examiner rejected claims 1 and 4-28 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,692,033 to Farris (henceforth, Farris). Applicants respectfully disagree with the Examiner's rejections.

Claim 1 provides a method of queuing calls to a subscriber of queuing services accessed through a subscriber line. Call Forward on Busy Line is provisioned on the subscriber line to permit detecting a call to the subscriber line at a local switch connected to the subscriber line. If the subscriber line is busy, the call is forwarded to an intelligent peripheral within an Advanced Intelligent Network (AIN) telecommunications system. The call to the subscriber is queued in the intelligent peripheral. A determination is made that the subscriber line is not busy. If a call is queued in the intelligent peripheral and the subscriber line is determined to be not busy, the call is connected to the subscriber with the subscriber line.

Applicants' invention places calls onto a queue maintained on an intelligent peripheral (IP) within an AIN. The call remains connected while it is queued. An embodiment of this queuing is described with regard to Figure 6 at page 13, line 20, through page 14, line 3, as follows:

If subscriber line 116 is busy, the received call is forwarded to IP 42, as in block 136. The Call Forward on Busy Line feature provisioned on subscriber line 116 forwards the received call to a Direct Inward Dial telephone number on AIN IP 42. When IP 42 receives the subscriber call, IP 42 establishes communication with SCP 32 via an SR-3511 interface using TCP/IP. IP 42 requests instructions for handling the call from SCP 32.

A check is made to determine if queue slots 43 are available as in block 138. SCP 32 looks up subscriber information in an associated database and, if queue slots 43 are available, responds to IP 42 with instructions to play an announcement to caller 110 stating that all lines are busy and to please hold. IP 42 may also play a message to caller 110 providing caller 110 with the option to leave a message if the system is so provisioned. The received subscriber call is placed in queue 43, as in block 140.

Applicants' invention keeps the original call connected until a subscriber line becomes available if the calling party so desires.

The Examiner asserts that Applicants' invention is taught by Farris' patent, titled "AIN Queuing for *Call Back Systems*." Farris defines a call back system in column 2, lines 7-12, reproduced as follows (emphasis added):

The AIN type network has been used to provide a variety of flexible services for customers. For example, AIN services have been developed to provide a call-back type of service in an AIN network, whereby *a caller who reaches a busy line can receive a call-back when the busy line is disconnected.*

In a call back system, the user is called back once a line becomes available. The user does not stay connected while waiting. Put another way, the call itself is not queued as in Applicants' invention.


* Farris teaches queuing the order of incoming calls for call back, not queuing the actual calls themselves. Farris' invention is described in the "Disclosure of the Invention" at column 4, lines 41-67, as follows (emphasis added):

In accordance with the present invention, all calls to a subscriber number are intercepted and placed in a queue during peak calling times. A call to the subscriber's number triggers a query from a telephone switching office serving the subscriber to an integrated services control point (ISCP). The ISCP instructs the telephone switching office to route the call to an announcement platform that *notifies the calling party of the queuing arrangement. If the calling party desires to be entered into the queue, the calling party enters specific digits in response to prompts from the announcement platform.* The telephone switching office sends a message for the ISCP to add the calling party to the queue, and the ISCP adds to the queue a record comprising the called and calling party numbers, and the time of the call.

At the time that the subscriber disconnects an existing telephone call, the telephone switching office serving the subscriber notifies the ISCP of the completed call. The ISCP then accesses the queue, and notifies the originating telephone switching office *to ring both the calling party identified in the queue and the subscriber.* Upon receiving the incoming call, the telephone switching office serving the subscriber sends a message to the ISCP regarding the incoming call. *The ISCP, recognizing the calling party as the number at the top of the*

queue, sends a command to the telephone switching office to terminate the call to the subscriber, at which point the queue is advanced for the next caller at the time the subscriber disconnects the call.

Farris discloses ringing the calling party at the top of the queue. If the call itself was queued, this procedure would make no sense.

 Farris discloses queuing the telephone number of the calling party, and not the actual call itself. This is disclosed, for example, with regard to Figures 3 and 4, including the following passages from column 11, line 57, through column 12, line 20, reproduced as follows (emphasis added):

If the caller inputs the digits indicating a desire to be placed in the queue in step 114, the AIN element executing the IVR (either the SSP 10a or the IP 18) collects the information from the caller and sends a message in step 116 to the ISCP 20 to add the calling party to the queue. *The message to the ISCP includes the calling party number, the called party number, and the time of the call.* The ISCP 20 updates the queue in step 118 by accessing the called party CPR and *updating the queue stored in the CPR to include the calling party number* based on the identified time of the call. If the calling party is identified in the subscriber profile as a priority caller, a priority flag is set in the subscriber profile to bypass the queue.

Thus, *the ISCP updates the CPR of the subscriber station Z to maintain a queue having the calling party numbers arranged on the basis of the time of call.* Thus, even though a plurality of callers may be attempting to reach the subscriber station Z at approximately the same time, the ISCP 20 will arrange the queue based upon the actual time of each call as recognized by the CCIS network. As shown in FIG. 1, if the SSP 10a performs the IVR operations, the queue request message is sent via the CCIS links and the STP 16; alternatively, if the IVR functions are performed by the IP 18, the queue message is sent to the ISCP 20 via the data communication network 32.

At the same time that the queue message is sent to the ISCP 20 from the IVR platform, the AIN element performing the IVR operation disconnects the call, and sends a disconnect message to the originating SSP via the CCIS network in step 120.

Two things are abundantly clear. First, Farris discloses queuing the calling party's telephone number. Second, Farris terminates the calling party's call. Thus, Farris neither teaches nor fairly suggests any form of call queuing as that term is used by Applicants.

* (Claim 1 provides that an incoming call is forwarded to an intelligent peripheral and that this call is queued within the intelligent peripheral. As the Examiner correctly put it, "Farris does not specifically teach queuing the call in the intelligent peripheral (IP)." Farris, in fact, teaches away from transferring a call to an IP in which the call itself is queued. Thus, the Examiner has failed to establish a *prima facie* case of obviousness in rejecting claim 1.

Claim 1 is patentable over Farris. Claims 4-10 depend from claim 1 and are therefore also patentable.

Claim 6 provides that determining that the subscriber line is not busy includes dialing the subscriber line from the intelligent peripheral and determining that the subscriber line is busy if the local switch calls the intelligent peripheral in response to the call to the subscriber line from the intelligent peripheral. The Examiner's rationale for rejecting claim 6 points out that Farris' method for determining the status of a subscriber's line is different than the method claimed by Applicants. The Examiner makes no attempt to find a teaching that a call is placed from the same intelligent peripheral which is queuing the actual calls.

Independent claim 11 provides a system for queuing subscriber calls within an Advanced Intelligent Network (AIN) telecommunications system in which each subscriber call is placed by a caller to a subscriber line. A local switch servicing the subscriber line includes Call Forward on Busy Line functionality provisioned on the subscriber line. The Call Forward on Busy Line functionality forwards any subscriber call received for the subscriber line when the subscriber line is busy. An intelligent peripheral within the AIN system receives any forwarded subscriber call from the local switch. If queue slots are available in the intelligent peripheral, the received subscriber call is queued. A busy check call is placed to the subscriber line. The busy check call is dropped if the busy check call is forwarded back to the intelligent peripheral from the local switch. A queued subscriber call is connected to the busy check call if the subscriber line is not busy.

The Examiner rejected claim 11 "for the same reasons discussed above with respect to claims 1-2 and 6." While not agreeing that claim 11 has the same scope as claims

1 and 6 (2 was previously cancelled), the same reasons provided above indicate that the Examiner's rejection is without merit.

Claim 11 is patentable over Farris. Claims 12-20 depend from claim 11 and are therefore also patentable.

Independent claim 21 provides a method for queuing subscriber calls. A subscriber line is provisioned with Call Forward on Busy Line functionality at a local switch servicing the subscriber line. A subscriber call destined for the subscriber line is received at the local switch. If the subscriber line is busy, the received call is forwarded to a Direct Inward Dial telephone number on an intelligent peripheral via the Call Forward on Busy Line functionality. The forwarded call is received at the intelligent peripheral. The forwarded call is queued at the intelligent peripheral if the intelligent peripheral has at least one available queue slot.

The Examiner rejected claim 21 "for the same reasons discussed above with respect to claims 1-2 and 6." While not agreeing that claim 21 has the same scope as claims 1 and 6 (2 was previously cancelled), the same reasons provided above indicate that the Examiner's rejection is without merit.

Claim 21 is patentable over Farris. Claims 22-27 depend from claim 21 and are therefore also patentable.

Independent claim 28 provides a method for queuing subscriber calls. At least one subscriber call is queued in an intelligent peripheral. A busy check call is placed from the intelligent peripheral to a subscriber line. The busy check call is received in a local switch servicing the subscriber line. If the subscriber line is busy, the busy check call is forwarded back to the intelligent peripheral through Call Forward on Busy Line functionality implemented in the local switch. The busy check call is disconnected if the intelligent peripheral receives back the forwarded busy check call. A queued subscriber call is connected with the busy check call if the subscriber line is not busy.

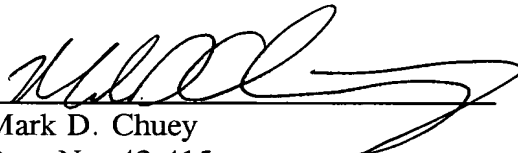
The Examiner's sole basis for rejecting claim 28 is that "Farris system sets a trigger in the profile record for the line serving the subscriber station, meaning this would be responsible for monitoring the status of the subscriber station ..." This does not teach or suggest Applicants' invention as claimed, which provides for placing a call from the intelligent

peripheral. Farris' use of an on-hook trigger in the subscriber's SSP teaches away from Applicants' receiving a busy check call forwarded back to the intelligent peripheral.

Claims 1 and 4-28 are pending in this application. Applicants believe these claims meet all substantive requirements for patentability and respectfully request that this case be passed to issuance. No fee is believed due by filing this amendment. However, any fee due may be withdrawn from Deposit Account No. 21-0456 as specified in the Application Transmittal.

The Examiner is invited to contact the undersigned to discuss any aspect of this case.

Respectfully submitted,
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Date: June 1, 2004

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